

AMENDMENTS TO THE CLAIMS

1. (Currently amended): A logically partitioned data processing system, comprising:
 - a plurality of logical partitions;
 - a plurality of operating systems, each assigned to a separate one of the plurality of logical partitions;
 - a plurality of assignable resources, wherein each of the plurality of assignable resources is assigned to one of the plurality of logical partitions;
 - at least one non-assignable resource; [[and]]
 - a hypervisor, wherein the hypervisor provides a set of services to each of the plurality of logical partitions, one of said set of services performing modifications to the non-assignable resource, in response to an operating system request to directly access said non-assignable resource, without allowing the operating system to directly access the non-assignable resource[[]]; and
 - wherein the set of services comprise a service for creating a new translation table for mapping a change in a logical address to a physical address without modifying an existing translation table.
2. (Canceled)
3. (Currently amended): The logically partitioned data processing system as recited in claim 1 [[2]], wherein the existing translation table is a page frame table.
4. (Original): The logically partitioned data processing system as recited in claim 1, wherein the non-assignable resource is a page frame table.
5. (Original): The logically partitioned data processing system as recited in claim 1, wherein the non-assignable resource is a mode of operation of a processor.
6. (Original): The logically partitioned data processing system as recited in claim 1, wherein instructions for executing the hypervisor are contained within firmware.

7. (Currently amended): A method for protecting the integrity of a logically partitioned data processing system, the method comprising:

receiving, at a hypervisor, a request from an operating system to perform an operation;

said data processing system including said hypervisor and a platform that includes a plurality of logical partitions, a plurality of operating systems each assigned to a separate one of the plurality of logical partitions, a plurality of assignable resources wherein each of the plurality of assignable resources is assigned to one of the plurality of logical partitions, and at least one non-assignable ~~unassigned~~ resource;

providing, by the hypervisor, a set of services, to each of the plurality of logical partitions, that perform modifications to the non-assignable ~~unassigned~~ resource without allowing the operating system to directly access the non-assignable ~~unassigned~~ resource; [[and]]

responsive to a determination that the request would not result in direct access by the operating system to said non-assignable ~~unassigned~~ resource, performing the operation[.]; and

wherein the request is a request to map a partition resource to a memory address and performing the operation comprises creating a translation table entry to map the memory address to an entry in a page frame table, wherein the entry in the page frame table corresponds to the partition resource.

8. (Currently amended): The method as recited in claim 7, further comprising:

responsive to a determination that the request would result in direct access by the operating system to said non-assignable ~~unassigned~~ resource, refraining from performing the operation.

9. (Canceled)

10. (Original): The method as recited in claim 7, wherein the hypervisor is implemented as firmware.

11. (Currently amended): A method executing within a logically partitioned data processing system, the method comprising:

said data processing system including a hypervisor and a platform that includes a plurality of logical partitions, a plurality of operating systems each assigned to a separate one of the plurality of logical partitions, and a non-assignable system resource;

receiving a request from an operating system to directly access said non-assignable system resource to modify said non-assignable system resource to enable said non-assignable system resource to perform a particular task;

determining whether direct access by said operating system to said non-assignable system resource is permitted;

responsive to a determination that the non-assignable system resource is one for which direct access is denied to the operating system, requesting a service from said hypervisor to perform said particular task, wherein said particular task is performed without permitting said operating system to directly access said non-assignable system resource[.]; and

a service for creating a new translation table for mapping a change in a logical address to a physical address without modifying an existing translation table.

12. (Previously presented): The method as recited in claim 11, further comprising:

responsive to a determination that the system resource is not one for which direct access is denied to the operating system, directly accessing the system resource to modify said system resource to perform said particular task

13. (Original): The method as recited in claim 11, wherein the hypervisor is implemented as firmware.

14. (Currently amended): A computer program product in computer readable media for use in a data processing system for protecting the integrity of a logically partitioned data processing system, the computer program product comprising:

instructions for receiving, at a hypervisor, a request from an operating system to perform an operation;

said data processing system including said hypervisor and a platform that includes a plurality of logical partitions, a plurality of operating systems each assigned to a separate one of the plurality of logical partitions, a plurality of assignable resources wherein each of the plurality of assignable resources is assigned to one of the plurality of logical partitions, and at least one non-assignable ~~unassigned~~ resource;

instructions for providing, by the hypervisor, a set of services to each of the plurality of logical partitions that perform modifications to the non-assignable ~~unassigned~~ resource, in response to an operating system request to access said non-assignable ~~unassigned~~ resource, without allowing the operating system to directly access the non-assignable ~~unassigned~~ resource; [[and]]

instructions, responsive to a determination that the request would not result in direct access by the operating system to said non-assignable ~~unassigned~~ resource, for performing the operation[[.]]; and

wherein the request is a request to map a partition resource to a memory address and performing the operation comprises creating a translation table entry to map the memory address to an entry in a page frame table, wherein the entry in the page frame table corresponds to the partition resource.

15. (Currently amended): The computer program product as recited in claim 14, further comprising:

instructions, responsive to a determination that the request would result in direct access by the operating system to said non-assignable ~~unassigned~~ resource, for refraining from performing the operation.

16. (Canceled)

17. (Original): The computer program product as recited in claim 14, wherein the hypervisor is implemented as firmware.

18. (Currently amended): A computer program product in a computer readable media for use in a logically partitioned data processing system for providing modification of

system resources by an operating system executing within the logically partitioned data processing system, the computer program product comprising:

said data processing system including a hypervisor and a platform that includes a plurality of logical partitions, a plurality of operating systems each assigned to a separate one of the plurality of logical partitions, and a non-assignable system resource;

instructions for receiving a request from an operating system to directly access said non-assignable system resource to modify said non-assignable system resource to enable said non-assignable system resource to perform a particular task;

instructions for determining whether direct access by said operating system to said non-assignable system resource is permitted;

instructions, responsive to a determination that the non-assignable system resource is one for which direct access is denied to the operating system, for requesting a service from said hypervisor to perform said particular task, wherein said particular task is performed without permitting said operating system to directly access said non-assignable system resource[.]; and

wherein a set of services comprise a service for creating a new translation table for mapping a change in a logical address to a physical address without modifying an existing translation table.

19. (Previously presented): The computer program product as recited in claim 18, further comprising:

instructions, responsive to a determination that the system resource is not one for which direct access is denied to the operating system, for directly accessing the system resource to modify said system resource to perform said particular task

20. (Original): The computer program product as recited in claim 18, wherein the hypervisor is implemented as firmware.

21. (Original): The computer program product as recited in claim 18, wherein the computer program product comprises an operating system.

22. (Currently amended): A system for protecting the integrity of a logically partitioned data processing system, the system comprising:

means for receiving, at a hypervisor, a request from an operating system to perform an operation;

said data processing system including said hypervisor and a platform that includes a plurality of logical partitions, a plurality of operating systems each assigned to a separate one of the plurality of logical partitions, a plurality of assignable resources wherein each of the plurality of assignable resources is assigned to one of the plurality of logical partitions, and at least one non-assignable ~~unassigned~~ resource;

said hypervisor for providing a set of services to each of the plurality of logical partitions that perform modifications to the non-assignable ~~unassigned~~ resource, in response to an operating system request to access said non-assignable ~~unassigned~~ resource, without allowing the operating system to directly access the non-assignable ~~unassigned~~ resource; [[and]]

means, responsive to a determination that the request would not result in direct access by the operating system to said non-assignable ~~unassigned~~ resource, for performing the operation[[.]]; and

wherein the request is a request to map a partition resource to a memory address and performing the operation comprises creating a translation table entry to map the memory address to an entry in a page frame table, wherein the entry in the page frame table corresponds to the partition resource.

23. (Currently amended): The system as recited in claim 22, further comprising:

means, responsive to a determination that the request would result in direct access by the operating system to said non-assignable ~~unassigned~~ resource, for refraining from performing the operation.

24. (Canceled)

25. (Original): The system as recited in claim 22, wherein the hypervisor is implemented as firmware.

26. (Currently amended): A system for providing for modification of system resources by an operating system within a logically partitioned data processing system, the system comprising:

means for determining that a system resource needs to be modified;

said data processing system including a hypervisor and a platform that includes a plurality of logical partitions, a plurality of operating systems each assigned to a separate one of the plurality of logical partitions, and a non-assignable system resource;

means for receiving a request from an operating system to directly access said non-assignable system resource to modify said system resource to enable said non-assignable system resource to perform a particular task;

means for determining whether direct access by said operating system to said non-assignable system resource is permitted;

means, responsive to a determination that the non-assignable system resource is one for which direct access is denied to the operating system, for requesting a service from said hypervisor to perform said particular task, wherein said particular task is performed without permitting said operating system to directly access said non-assignable system resource[.]; and

wherein a set of services comprise a service for creating a new translation table for mapping a change in a logical address to a physical address without modifying an existing translation table.

27. (Previously presented): The system as recited in claim 26, further comprising:

means, responsive to a determination that the system resource is not one for which direct access is denied to the operating system, for directly accessing the system resource to modify said system resource to perform said particular task.

28. (Original): The system as recited in claim 26, wherein the hypervisor is implemented as firmware.